## [BAND PASS FILTER] Abstract

A band pass filter (BPF) for extracting a desired frequency band from an input signal that is represented in a sequence of data stream. Breaking through a traditional Infinite-duration Impulse Response (IIR) or Finite Impulse Response (FIR) filter design technologies, by using a difference of an input signal and a delayed version of the input signal, the present invention provides another way to make a band pass filter that greatly reduces the complexity, the costs, the power consumption, the design area required of an IIR or a FIR based band pass filter.